

What is claimed is:

1. A cryogenic receiver front-end comprising
a heat sink, the heat sink comprising a mounting surface
5 and a plurality of fins;
a cryocooler mounted to the mounting surface of the heat
sink;
a heat rejector surrounding the cryocooler, the heat
rejector including a plurality of c-shaped recesses therein;
10 a plurality of heat pipes, each heat pipe having first and
second ends, the first ends of the plurality of heat pipes
disposed in respective c-shaped recesses of the heat rejector,
the second ends of the plurality of heat pipes being thermally
coupled to the heat sink, the plurality of heat pipes having a
15 working fluid disposed therein; and
an enclosure unit mounted to the heat sink.
2. The thermally conductive interface of claim 1, wherein
the heat rejector is made of a metal.
- 20 3. The cryogenic receiver front-end of claim 2, the heat
rejector being formed from annealed copper.

4. The cryogenic receiver front-end of claim 1, the plurality of heat pipes being formed from OFHC copper.

5. The cryogenic receiver front-end of claim 1, wherein
5 the enclosure unit satisfies the NEMA-4X standard.

6. The cryogenic receiver front-end of claim 1, wherein the cryogenic receiver front-end is disposed inside a structure.

10 7. The cryogenic receiver front-end of claim 1, wherein the cryogenic receiver front-end is disposed in an outside environment.

8. The cryogenic receiver front-end of claim 1, wherein
15 the cryogenic receiver front-end is disposed in or adjacent to a base station.

9. The cryogenic receiver front-end of claim 1, wherein the cryogenic receiver front-end is mounted to a pad.
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10. The cryogenic receiver front-end of claim 1, wherein the cryogenic receiver front-end is mounted to a wall.

11. The cryogenic receiver front-end of claim 1, wherein
the cryogenic receiver front-end is mounted to a pole.

12. The cryogenic receiver front-end of claim 1, wherein
5 the working fluid is selected from the group consisting of
methanol, ammonia, water, nitrogen, neon, and ethane.

13. A method of dissipating heat from a heat generating
component located in or adjacent to a base station, the method
10 comprising the steps of:

providing a heat sink, the heat sink being located in or
adjacent to a base station;

providing at least one heat generating component;

providing a heat pipe for the at least one heat generating
15 component, the heat pipe having a first and a second end and a
working fluid contained therein, the first end of the heat pipe
being thermally coupled to the at least one heat generating
component, the second end of the heat pipe being thermally
coupled to the heat sink.

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14. The method of claim 13; wherein the heat sink
comprises a plate having a plurality of fins located thereon.

15. The method of claim 13, wherein the heat generating component is selected from the group consisting of amplifier, multiplexer, power supply, power converter, and control circuitry.

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16. The method of claim 13, wherein the heat pipe is thermally coupled to the at least one heat generating component using a heat rejector including a c-shaped recesses therein, the first end of the heat pipe being disposed within the c-shaped
10 recess.

17. The method claim 13, wherein the working fluid is selected from the group consisting of methanol, ammonia, water, nitrogen, neon, and ethane.

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18. The method of claim 13, wherein the heat pipe is fully enclosed within an enclosure surrounding the at least one heat generating component.

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19. A thermally conductive interface between a heat source and a heat sink comprising:

a heat rejector being thermally coupled with a heat source, the heat rejector including a c-shaped recess therein for receiving one end of a heat pipe having a working fluid therein,

the heat sink being thermally coupled to an opposing end of the heat pipe.

20. The thermally conductive interface of claim 19,
5 wherein the heat rejector is made of a metal.

21. The thermally conductive interface of claim 20,
wherein the heat rejector is made of annealed copper.

10 22. The thermally conductive interface of claim 19,
wherein the heat source is a cryocooler.

23. The thermally conductive interface of claim 19,
wherein the heat source is selected from the group consisting of
15 amplifier, multiplexer, power supply, power converter, and
control circuitry.

24. The thermally conductive interface of claim 19,
further comprising means for clamping the c-shaped recess.

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